



CONTEST DESCRIPTION / DESCRIPTION DE CONCOURS

AUTOMOBILE SERVICE

MECANIQUE AUTOMOBILE

SECONDARY AND POST-SECONDARY /
NIVEAU SECONDAIRE ET POSTSECONDAIRE

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1 THE ESSENTIAL SKILLS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY

SCC is currently working with Employment and Social Development Canada (ESDC) in order to bring awareness to the importance of Essential Skills that are absolutely crucial for success in the workforce. Part of this ongoing initiative requires the integration and identification of Essential Skills in contest descriptions, projects, and project documents. The next phase and very important aspect of our Essential Skills (ES) initiative is to provide an ES report card to each competitor at the Skills Canada National Competition. The purpose of the ES report card is to inform the competitor about their current level of essential skills based on their competition scores. With this knowledge, the competitor will be made aware which essential skill may require improvement. Full implementation is expected in the 2017 Skills Canada National Competition.

The following 9 skills have been identified and validated as key essential skills for the workplace in the legend below:

¹Numeracy, ²Oral Communication, ³Working with Others, ⁴Continuous Learning, ⁵Reading Text, ⁶Writing, ⁷Thinking, ⁸Document Use, ⁹Digital

These essential skills have been identified with in section 2.4 and/or 3.2 of your Contest Description. The top three Essential Skills for your area of competition have been identified on your Project and all other supporting project documents.

2 CONTEST INTRODUCTION

2.1 Description of the associated work role(s) or occupation(s).

<http://skillscompetencescanada.com/en/careers/transportation/automotive-service/>

2.2 Purpose of the Challenge.

Assess the competitor skills in correctly inspecting, repairing and adjusting detached and / or mounted auto parts, as compared to industry standards. Practical assignments will be based on selected areas of the scope document.

2.3 Duration of contest.

12 hours

2.4 Skills and Knowledge to be tested.

The following will be tested during the contest: Service Information Retrieval, Engine Mechanical, Engine Management, Ignition Systems, Vehicle Emission Systems, Electrical Accessories, Electrical, Braking systems, Suspension and Steering, and Power Trains.

3 CONTEST DESCRIPTION

3.1 List of documents produced and timeline for when competitors have access to the documents.

DOCUMENT	DATE OF DISTRIBUTION VIA WEBSITE
Vehicle Manufacturer	Two weeks before the competition

3.2 Tasks that may be performed during the contest

- **Workshop Procedures**
Service Information Retrieval
Electronic system use
Traditional manual/information printouts use.⁵
Interprets work order information to convey diagnostic approach⁸.
Explanation of service work performed.
- **Engine Mechanical**⁷
Assembly / disassembly
Identify components
Component fault diagnosis
Inspection and testing
Diagnosis and service of cylinder heads and blocks
Measurements with dial-indicator, plastigage, micrometers, feeler gauges, and straight edge
- **Engine Ignition, Management and Emissions**⁷
Identify components
Drivability diagnostics and repair
Test equipment usage
Scan Tool
Multi-meter (DVOM)
Lab-scope
System repair
Component operation and testing
- **Electrical Systems**
Starting systems
Charging systems
Batteries
Accessories
Testing and diagnosis
Body and Chassis Electrical

- **Braking Systems (excluding air brake systems)**
Identify components
Inspection and testing
Assembly / disassembly
Base Brake systems
ABS / Traction / Stability
Routine maintenance, repairs, & adjustments.
Diagnostics
- **Suspension and Steering⁷**
Identify components
Inspection and testing
Assembly / disassembly
Routine maintenance / repairs and adjustments
Diagnostics
- **Manual Transmission and Drivetrain Components**
Identify components
Inspection, measurement and testing¹
Assembly / disassembly
Routine maintenance / adjustments
Driveline measurements and adjustments
Driveshaft diagnosis and repair

*Essential Skills – ¹Numeracy, ⁹Reading Text, ⁷Thinking (Critical, Job Task Planning & Organizing),
⁸Document Use*

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

- All required tools and equipment

Supplied by Mac Tools

- Fluke Digital Multimeters – model: 179
- Brake Resetting Gauge
- Jack stands
- Striking Straight Blade Pry Bar – model: CPBS250
- Standard Locking Pliers (10 Inch) – model: MLP10CJ
- Needle Nose Locking Pliers (6 Inch) – model: MLP6LN
- Interlocking Channel Pliers (9 Inch) – model: PS4
- Flare Nut Socket Set (6-Point)
- Brake Fluid Syringe – model: B1885-098
- Adapter (1/2 Internal Drive to 3/8 External Drive – model: E117262
- Drive Breaker Bar
- Adjustable Wrench model: E187366
- Flat Chisel – model: C50PDPT
- Relay Test Jumper Kit – model: RTJ101

- AC/DC current adapter – model: EM110
- Spark tester – model: ST400
- Accessory lead kit – model: ETATLK96M
- DMM leads – model: EST134
- Cordless Work Lights – model: TLL4000-B
- Wrench Sets – model: SMB14KKS
- Fender Covers – model: FC100
- Identical Strut Compressors / Stands – model: SSC91 Strut Tamer Extreme / OTC 6582 Stands
- Straight Edge – model: Se24
- 12V MAX Cordless 3/8" Drive Impact Wrench Kit – model: TWX100FDA
- Torque wrenches torque to yield 3/8 and ½ model: TWV250FDA
- Ratchet long - model: Vr17k
- Pullers – model: PJ500SA
- Scrapers – model: L81200
- Trouble lights (rechargeable) – model: TLL4400
- Metric impact sockets – model: SVDPM246CBR
- Std impact sockets – model: SVDP136BRPT
- Pry bars – model: CPBS25O
- Piston ring installer – model: L33500
- Dial indicator vise grip base – model: DDRG465
- Differential Cylinder Pressure Tester – model: CLD210M
- Ford Camshaft Alignment Kit – model: L37410
- Engine Stands – model: ES31252
- Shock Installation Tool Kit – model: 78554-39
- Jack Stands
- Flaring Kit (Double)(ISO) – model: FS242
- Impact Wrench – model: BWP050-L2
- Ball Joint/Disc Brake Dial Test indicator – model: DDRG465
- 3/8" Torque Wrench Click Type (5-75 ft. lb.) – model: TWX80FC
- ½" Torque Wrench Click Type (50-250 ft. lb.) – model: TWV250FC
- General Brake Service Set (7 pieces) – model: BT96152
- Ball Peen Hammer (32 oz) – model: BH32AV
- Caliper Dial Type (US and Metric 0-6") – model: DDC6027
- Tape Measure (US and Metric 16 feet) – model: 33-116
- Flare Nut Wrench Set Metric (9-21mm) – model: SFBM66PTR
- Crows Foot Set Metric (10-19 mm) – model: SCHBM10H
- Plier Kits (8 inch) – model: PS4
- Tubing Bender – model: TB14528
- Tubing Cutter – model: TCM130B
- Back Probe Kits – model: ET96469
- Jumper Kit – model: ET96072
- Test light – model: ET111x
- Pliers – model: PS56A

- Magnet – model: MHT3
- Straight edge– model: SE35
- Feeler gauge – model: FG013 & FG002 & FG015
- Torque wrench ftlb & inlb – model: TWV150FC & TWM200A
- Piston hammer – model: CH23
- Piston ring compressor – model: PRC144
- Bore gauge – model: DCBG280
- Creepers – model: CR921
- Torque wrench ftlb – model: TWV150FC
- 16 oz. Ball peen Hammers – model: BH16AV
- 3-PC. Pry Bar Set in Plastic Tray – model: SPB3PT
- 4PC Universal Plier Set – model: PS4 4-PC
- 3/8" Drive Speed Handle – model: X17SL
- Magnetic base Digital dial Indicator - model: DDI350
- Drift Punch Set in Kit Bag - model: DP40KSS
- In lb Torque Wrench - model: TWDFX150IN
- Ft lb Torque Wrench - model: TWX100FC
- 6 PC Adapter set - model: SAD6T
- Breaker bar - model: V24SF
- Vernier caliper - model: DDC6027
- Socket and Wrench Set - model: E034835

COMPETITORS WILL BE REQUIRED TO USE THE MATERIAL AND EQUIPMENT PROVIDED BY SCC. ALL OTHER MATERIAL AND EQUIPMENT WILL BE REMOVED FROM THE SKILL AREA.

4.2 Equipment and material provided by the competitor

- Competitors are not required to supply any tools or equipment

4.3 Required clothing (Provided by competitor)

- A professional image must be portrayed. Appropriate work apparel must be worn. (Provincial shirts, coveralls, shop coats, work pants only, no hats and shirts must be tucked in)

5 SAFETY REQUIREMENTS

5.1 Safety workshop

Upon arrival at the Skill area, Competitors will participate in a Safety workshop and they will be expected to work and maintain a safe working area during the competition. Any Competitor breaking any health, safety and environment rules, may be required to undertake a second safety workshop, this will not affect the Competitor's competition time.

5.2 List of required personal protective equipment(PPE) provided by competitors

- Safety Glasses
- CSA approved Safety shoes
- Hearing protection
- Nitrile and/or mechanics gloves are optional.

Note: Competitors will not be allowed to compete if the above items are not brought and used

6 ASSESSMENT

6.1 Point breakdown

POINT BREAKDOWN	/100
Engine Mechanical	16
Electrical	17
Engine Management	17
Suspension and Steering	17
Brakes and related systems	17
Manual Transmission	16

7 ADDITIONAL INFORMATION

7.1 Consecutive translation

If consecutive translation is required on site, the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this service might not be guaranteed.

7.2 Software requirements

If French software is required the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this software might not be guaranteed.

7.3 Computer keyboard requirements

English Keyboards will be provided, if a French keyboard is required the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this keyboard might not be guaranteed.

7.4 Test Project change at the Competition

Where the Test Project has been circulated to Competitors in advance, NTC shall change a maximum of 30% of the work content. Please refer to the Competition Rules.

7.5 Tie (No ties are allowed)

In the event of a tie, the competitor with the highest score at the Electrical station will be declared the winner.

7.6 Competition Rules

Please refer to the competition rules of the Skills Canada National Competition

8 NATIONAL TECHNICAL COMMITTEE MEMBERS

Member Organization	Name	Email address
Yukon	Victor Enders	
Manitoba	Len Grieve	
Ontario - Chair	Martin Restoule	restoum@algonquincollege.com
Québec	Sylvain Pelletier	
Newfoundland and Labrador	Charlie Druken	
Saskatchewan	James Halushka	
Prince Edward Island	Jeff Dingwell	
Alberta	Ricky Martineau	
British Colombia	Jason Devisser	
Northwest Territories	Richard Kent	
Nova Scotia	Daniel Hiltz	
New Brunswick	Bill McDonald	